WHAT IS CLAIMED IS:

1.   An apparatus for computer-assisted spinal fixation, comprising a storage medium for storing a spinal fixation application which, when executed by a processor, displays a series of interface images for assisting a user with a spinal fixation procedure.

2.   The apparatus of claim 1, wherein said spinal fixation application is operable to cooperate with a tracking system to provide real-time pedicle entry point location assistance to said user during said spinal fixation procedure.

3.   The apparatus of claim 1, wherein said spinal fixation application is operable to provide a linking structure size information to said user.

4.   The apparatus of claim 1, wherein said spinal fixation application is operable to display a virtual representation of at least a portion of a spine to said user for said spinal fixation procedure.

5.   The apparatus of claim 1, wherein said spinal fixation application is operable to prompt said user to select a plurality of fiducials to be used for said spinal fixation procedure.

6.   The apparatus of claim 1, wherein said spinal fixation application is operable to visually indicate to said user that a requisite number of fiducials for said spinal fixation procedure have not been selected.

7.   The apparatus of claim 1, wherein said spinal fixation application is operable to display to said user sizes of a plurality of implants for said spinal fixation procedure.

8.   The apparatus of claim 1, wherein said spinal fixation application is operable to assist said user in determining a size of a structure for linking at least two portions of a spine.

9.   A computer-assisted spinal fixation method, comprising:

receiving an input from a user; and

displaying on a display device a series of interface images for assisting said user with a spinal fixation procedure.

10.   The method of claim 9, further comprising enabling said user to select a pedicle entry tool from a plurality of predetermined pedicle entry tools displayed in a predetermined one of said series of interface images.

11.   The method of claim 9, further comprising enabling said user to select a pedicle reaming tool from a plurality of predetermined pedicle reaming tools displayed in a predetermined one of said series of interface images.

12.   The method of claim 9, further comprising enabling said user to select an implant insertion tool from a plurality of implant insertion tools displayed in a predetermined one of said series of interface images.

13.   The method of claim 9, further comprising receiving information on a plurality of fiducials from said user in response to displaying a predetermined one of said series of interface images.

14.   The method of claim 9, further comprising visually indicating, on a predetermined one of said series of interface images, that a requisite number of fiducials for said spinal fixation procedure have not been selected.

15.   The method of claim 9, further comprising:

calculating a tip accuracy value for at least one of a plurality of user-selected tools; and

displaying in an image of said series of interface images said calculated tip accuracy value.

16.   The method of claim 9, further comprising:

calculating an axis accuracy value for at least one of a plurality of user-selected tools; and

displaying in an image of said series of interface images said calculated axis accuracy value.

17.   The method of claim 9, further comprising displaying a virtual representation of at least a portion of a spine in at least one of said series of interface images.

18.   The method of claim 17, further comprising highlighting in said virtual representation a plurality of fiducials previously selected by said user.

19.   The method of claim 18, further comprising prompting said user to indicate said highlighted fiducials on said portion of said spine.

20.   The method of claim 19, further comprising determining position information of said highlighted fiducials based at least in part on said indication by said user.

21.   The method of claim 20, further comprising calculating a registration error based at least in part on said determined position information.

22.   The method of claim 9, further comprising displaying, in an image of said series of interface images, size information of a plurality of implants for said spinal fixation procedure.

23.   The method of claim 22, further comprising allowing said user to select an implant from said plurality of implants.

24.   The method of claim 23, further comprising receiving size information for said selected implant.

25.   The method of claim 17, further comprising displaying in real-time an image of a tool overlaid on said virtual representation, said image of said tool including an image of an implant selected by said user, said image of said implant extending from an end of said image of said tool.

26.   The method of claim 25, wherein at least one dimension of said image of said implant is proportional to a corresponding dimension of said implant.

. 27.   The method of claim 9, further comprising determining a size of a structure for linking at least two portions of a spine.

28.   The method of claim 19, further comprising receiving position information for said highlighted fiducials.

29.   The method of claim 28, further comprising calculating a size of at least a portion of a structure for linking at least two of said highlighted fiducials.

30.   The method of claim 28, further comprising calculating a size of at least a portion of a structure for linking at least two of said highlighted fiducials based at least in part on position information of said at least two of said highlighted fiducials.

31.   The method of claim 29, wherein said size comprises a length and an offset between two points of said at least a portion of said structure.

32.   The method of claim 29, further comprising displaying said size in an image of said series of interface images.

33.   The method of claim 29, further comprising automatically selecting a link from a plurality of links based at least in part on said calculated size.

34.   The method of claim 33, further comprising providing information identifying said selected link to said user.

35.   The method of claim 33, further comprising displaying said selected link coupled to said virtual representation of said portion of said spine.

36.   The method of claim 29, further comprising providing said size to a processor-based system for controlling a tooling machine, said tooling machine fabricating said structure of appropriate size.